Consulted Steven Nguyen 2665 370

US005715237A

United States Patent [19]

Akiyoshi

[11] **Patent Number: 5,715,237**

[45] **Date of Patent: Feb. 3, 1998**

[54] **INTER DIGITAL SWITCHING EQUIPMENT RELAY SYSTEM AND DIGITAL SWITCHING EQUIPMENT**

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[21] Appl. No.: **532,119**

[22] Filed: **Sep. 22, 1995**

[30] **Foreign Application Priority Data**

Dec. 28, 1994 [JP] Japan 6-329169

[51] **Int. Cl.**[6] **H04L 12/26**

[52] **U.S. Cl.** **370/228**; 370/229; 370/232

[58] **Field of Search** 370/228, 229, 370/230, 232, 234, 237, 536; 375/260, 257

[56] **References Cited**

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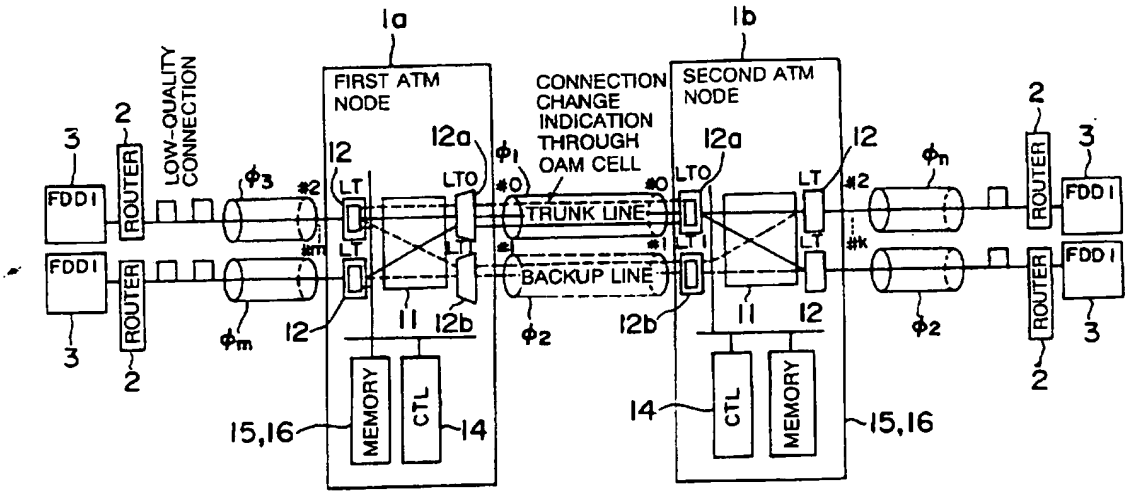
[57] **ABSTRACT**

An ATM cell transferred from a first ATM node to a second ATM node is, in a normal state, transmitted to a line control unit from an ATM cell switch within the first ATM node and sent to a trunk line therefrom. when a usage of a buffer connected within this line control unit comes to a fixed threshold value or larger, in the line control unit for sending the ATM cell to the ATM cell switch, routing (TAG) data added to a header part of the ATM cell belonging to a low-quality connection among connections directed to the second ATM node is so rewritten as to be directed to the line control unit. The relevant cell is sent forward to the line control unit and transferred to the second ATM node via a backup line.

22 Claims, 54 Drawing Sheets



US-PAT-NO: 6570855

DOCUMENT-IDENTIFIER: US 6570855 B1

TITLE: Automatic call manager traffic gate feature

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Detailed Description Text - DETX (16):
Again referring now to FIG. 2, the IP central station 200 may include a central router 200, for example, a gigabit switch, which may be utilized to interconnect various servers and gateways contained in the IP central station 200. The central router 210 provides for example Ethernet switching and aggregate traffic between servers, gateways and the IP network 120 and/or ATM network 185 backbone. In one exemplary embodiment, the central router 210 provides high-speed, non-blocking IP and IP multicast Layer 3 switching and routing. The IP central station 200 may include one or more of the following servers: the least cost server (LCS) 255, the time of day (TOD) server 212, the dynamic host control protocol (DHCP) server, the trivial file transfer protocol (FTP) server, and the domain name service (DNS) server 214, the system management (SM) server 216, the call manager (CM) server 218, the announcement server (AS) 220, the multimedia server (MS) 222, and/or the conference server (CS) 224. As illustrated in FIG. 2, the servers may be separate servers, for example the call manager server 218, or may be incorporated into a single server. In the exemplary embodiment, the dynamic host control protocol server 131, trivial file transfer protocol server 132, and the domain name service server 214 are each incorporated in a single server facility. Each server in the IP central station 200 may include computer(s), storage device(s), and specialized software for implementing particular predefined functions associated with each server. In this manner, the servers in the IP central station may be provisioned as a main server and one or more back-up servers to provide redundant processing capabilities. Similarly, the router may be implemented as a main **router and a back-up router** with similar routing

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functionality.

Detailed Description Text - DETX (60):
Though processing may be accomplished by a single processor performing all functions (e.g., processing controller 306), in the preferred embodiment shown in FIG. 3, the architecture employs a distributed processing controller 306, and a plurality of processors P1-P6308-318. In the distributed processing architecture, each of the plurality of processors P1-P6 may be configured to have a dedicated function to provide predetermined services or applications. The processors may be coupled together via any suitable mechanism such as the processor bus 380 and/or high speed bus (HSB) 360. The first processor P1308 may include telephony applications such as call set-up, call tear down, and call functions; the **second processor** P2310 may include management functions such as distribution and coordination of data within the various devices of the broadband residential gateway 300; the third processor P3312 may include video processing functions for configuring control panels, screen displays of attached devices, video conference calls, MPEG decoding functions and other video processing functions; the fourth processor P4314 may include an auxiliary processor for off loading special processing functions such as numeric processing; the fifth processor P5316 may include interface input/output processing (e.g., text to voice and vise versa) and/or Internet protocol (IP) processing functions for configuring data to communicate with the remainder of the broadband network 1 and/or devices attached to the broadband residential gateway 300 such as IP telephones or IP enable PCs; and the sixth processor P6318 may include processing functions for Operation, Maintenance and Provisioning (OAM&P) processing. Each of the above processors may be an entirely separate processing unit with included RAM, ROM, Flash memory, or may share RAM, ROM, and/or Flash memory. Where shared RAM, ROM, and/or Flash memory is utilized, the memory may be located within the distributed processor controller 306 and/or on the processor bus 380. Alternatively, the memory may be integrated into the operating program store 330 and/or into memory 322.

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Untitled
(backup or standby or protect$3 or redundan$3 or spar$3) with (interface or card) and 370/216-228.ccls.

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